UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2003/01031 (LAA)
2003/01439 (NLAA)

January 2, 2004

Ms. Christina M. Welch
Bureau of Land Management
Prineville District Office
3050 NE 3rd Street
Prineville, OR 97754

Re: Endangered Species Act Section 7 Formal and Informal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Proposed Little Canyon Mountain Timber Sale and Stewardship Project, Prineville District, John Day River Subbasin, Grant County, Oregon

Dear Ms. Welch:

Enclosed is a document containing a biological opinion (Opinion) prepared by NOAA's National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of funding the proposed Little Canyon Mountain Timber Sale and Stewardship Project, Prineville District, John Day River Subbasin, Grant County, Oregon. The document contains both concurrence on activities which may affect, but are not likely to adversely affect (NLAA) (NOAA Fisheries Tracking No.: 2003/01439) Middle Columbia River (MCR) steelhead, and a biological opinion (Opinion) for those activities which are likely to adversely affect (LAA) (NOAA Fisheries Tracking No.: 2003/01031) MCR steelhead. In this Opinion, NOAA Fisheries concludes that the proposed action is not likely to jeopardize the continued existence of ESA-listed Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*). As required by section 7(b)(4) of the ESA, NOAA Fisheries includes reasonable and prudent measures with nondiscretionary terms and conditions that NOAA Fisheries believes are necessary to minimize the impact of incidental take associated with this action.

This document also contains a consultation on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and its implementing regulations (50 CFR Part 600). NOAA Fisheries concludes that the proposed action may adversely affect designated EFH for chinook salmon (*O. tshawytscha*). As required by section 305(b)(4)(A) of the MSA, included are conservation recommendations that NOAA Fisheries believes will avoid, minimize, mitigate, or otherwise offset adverse effects on EFH resulting from the proposed action. As described in the enclosed consultation, 305(b)(4)(B) of the MSA requires that a Federal action agency must provide a detailed response in writing within 30 days of receiving an EFH conservation recommendation.

If you have any questions regarding this letter, please contact Brett Farman of my staff in the Eastern Oregon Habitat Branch of the Oregon State Habitat Office at 541.975.1835, ext. 228.

Sincerely,

for Michael R Crouse

D. Robert Lohn
Regional Administrator

cc: John Morris, BLM
Larry Bright, USFS
Marisa Meyer, USFWS
Tim Unterwegner, ODFW

Endangered Species Act - Section 7 Consultation
Biological Opinion

&

Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat Consultation

Little Canyon Mountain Timber Sale and Stewardship Project,
Prineville District,
Upper John Day River Subbasin,
Grant County, Oregon

Agency:	Bureau of Land Management
Consultation Conducted By:	National Marine Fisheries Service, Northwest Region
Date Issued:	January 2, 2004
Issued by:	For Michael R Crouse D. Robert Lohn Regional Administrator
Refer to:	**2003/01031 (LAA)** **2003/01439 (NLAA)**

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1. INTRODUCTION

The Endangered Species Act (ESA) of 1973 (16 USC 1531-1544), as amended, establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat on which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with NOAA's National Marine Fisheries Service (NOAA Fisheries) and U.S. Fish and Wildlife Service (together "Services"), as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their designated critical habitats. This biological opinion (Opinion) is the product of an interagency consultation pursuant to section 7(a)(2) of the ESA and implementing regulations at 50 CFR 402.

The analysis also fulfills the essential fish habitat (EFH) requirements under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a Federal fisheries management plan. Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (section 305(b)(2)).

The Prineville District of the Bureau of Land Management (BLM) proposes to fund the Little Canyon Mountain Timber Sale and Stewardship Project (Project). The purpose of the Project is to reduce timber stand density on about 1,850 acres of BLM land near Canyon City, Oregon. In addition to reducing stand density, the BLM proposes: (1) Relocating 0.45 miles of existing road within the riparian habitat conservation area (RHCA)[1] to outside the RHCA of Little Pine Creek; (2) surfacing the relocated segment and an additional 1.975 miles of existing main road with pit-run aggregate; (3) closing approximately 5.2 miles of existing native-surfaced road, of which approximately 2.42 miles are within the RHCA; (4) constructing approximately one mile of fence along the east side of Little Pine Creek in the Pointer allotment to exclude livestock from Little Pine Creek; (5) replacing an existing culvert on a private easement road that is a barrier to juvenile fish upstream migrants; (6) felling conifers within an RHCA on approximately 10 acres in three places along Little Pine Creek to increase large wood and promote vigor of native hardwoods; and (7) closing the area known as the "Pit" in the north central edge of the Project area to motorized vehicles greater than 50 inches in width and leaving a forested buffer around the outer limits. The administrative record for this consultation is on file at the Oregon State Habitat Office.

[1] Riparian Habitat Conservation Area (RHCA) - Portions of watersheds where riparian dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. RHCAs include traditional riparian corridors, wetlands, intermittent headwater streams, and other areas where proper ecological functioning is crucial to maintenance of the stream's water, sediment, woody debris and nutrient delivery systems. (USDA and USDI 1995)

1.1 Background and Consultation History

On September 26, 2003, NOAA Fisheries received a letter dated September 24, 2003, with attached Project information from the BLM requesting ESA section 7 informal consultation and concurrence that the proposed Project "may effect, but is not likely to adversely affect" (NLAA) Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*). Upon receipt of the request, NOAA Fisheries' staff let the BLM know that additional information would be required in order for NOAA Fisheries to concur with an NLAA determination. The additional information needs were primarily related to the culvert replacement and road closures. Some of the information was provided, and a site visit clarified other Project specifics. Steelhead distribution within the Project area was initially unclear, until a call was received from an Oregon Department of Fish and Wildlife (ODFW) fish biologist on November 5, 2003. The ODFW biologist said that MCR steelhead can reach the Project area.[2] At a previous site visit with the BLM, NOAA Fisheries observed fish in a jump pool directly below the culvert to be replaced. Because short-term, localized adverse effects (bank and streambed destabilization, minor riparian vegetation removal, sedimentation, and turbidity) are likely to result from Project implementation, and MCR steelhead are likely to be present within the Project area, NOAA Fisheries' staff requested that the BLM revise their effects determination to "may affect, likely to adversely affect" (LAA), and provide additional information.

NOAA Fisheries received the requested additional information and revised LAA determination for the proposed Project on November 17, 2003, and consultation was initiated at that time.

The MCR steelhead was listed as threatened under the Endangered Species Act (ESA) by NOAA Fisheries on March 25, 1999 (64 FR 14517). NOAA Fisheries applied protective regulations to MCR steelhead under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). The objective of this Opinion is to determine whether the subject action is likely to jeopardize the continued existence of MCR steelhead. The objective of EFH consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

1.2 Proposed Action

Action is defined in the Services' consultation regulations (50 CFR 402.02) as "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas." Additionally, U.S. Code (16 U.S.C. 1855(b)(2)) further defines a Federal action as "any action authorized, funded, or undertaken or proposed to be authorized, funded, or undertaken by a Federal agency." Because the BLM proposes to fund the action that may affect listed resources, it must consult under ESA section 7(a)(2) and MSA section 305(b)(2).

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[2] Phone call with Jeff Neal (ODFW), November 5, 2003, (describing field observations from Little Pine Creek that morning).

The BLM is requesting concurrence that seven of the eight activities involved in this Project are NLAA with regard to MCR steelhead. These seven actions are: (1) Fuels reduction, (2) road relocation, (3) road surfacing, (4) road closures, (5) fence construction, (6) RHCA conifer felling, and (7) the "Pit" closure. The BLM has agreed that the fish passage barrier culvert replacement is LAA with regard to MCR steelhead.

The Project has two forest thinning components. The first is a commercial timber sale that will reduce stand density (basal area) in similar timber types, such as ponderosa pine, mixed conifer, and Douglas-fir, on approximately 500 acres beside private lands near Canyon City, Oregon. The second is a stewardship contract that will also reduce stand density (basal area) in similar timber types and may produce products of commercial value. Other actions associated with the commercial timber sale aspect of the Project are: (1) Surfacing with pit-run aggregate on the main road from the end of pavement to the relocation segment (0.4 miles); (2) surfacing with pit-run aggregate approximately 0.2 mile of existing lateral road; and (3) constructing approximately 250 feet of temporary road to avoid placing a landing in a dry meadow. The stewardship contract includes resurfacing 1.975 miles of the existing main road. Approximately 0.2 miles of the resurfacing will occur within the RHCA of Little Pine Creek, but will be on the outer edge rather than next to the creek.

The forest vegetation will be treated as described in the environmental assessment provided with Project information. The basal area (in square feet per acre) targets for final stand density are described in the Environmental Impact Statement (EIS) as: "The average basal area in the juniper plots would change from approximately 81.3 basal area to 0-40 basal area. The average basal area in the ponderosa pine dominated plots would change from approximately 178.2 basal area to 40-60 basal area. In the mixed conifer sites, the average basal area would change from approximately 164.0 basal area to 60-80 basal area. In the Douglas-fir sites, the basal area would change from an average of 145.5 basal area to 80-100 basal area. In some cases, the target basal area would already be met, and little or no treatment would be required."

Yarding will be ground-based on slopes less than 35% and helicopter on slopes greater than 35%. Soil compaction will be kept below 20% by yarding on frozen ground or limiting the number of passes to three. No yarding will occur in wet conditions. No stand management activities will occur within RHCAs for this part of the Project, except for approximately 25 trees that will be cut within a 300-foot section of the riparian area of Little Pine Creek to promote hardwood growth. The trees will be hand-felled and left within the RHCA. Little Pine Creek is in a canyon on a northern aspect and does not receive large quantities of direct sunlight.

Road closures will occur to help minimize sediment mobilization and transport into Little Pine Creek. The majority of the native-surface roads to be closed were not constructed, but were formed by repeated vehicle use. Many of these native-surface roads are outside of RHCAs, but route sediment-laden water into Little Pine Creek. Native-surface roads will not be scarified, but will be closed by blockage with methods such as berms, scattered debris, or boulders. Where needed, water bars or drain dips will be installed to direct run-off water into vegetated areas to avoid sediment transport to Little Pine Creek.

The portion of the main road which will be decommissioned within the Little Pine Creek RHCA will be scarified. Scarifying is expected to promote growth of vegetation. To minimize sediment input into Little Pine Creek, a fish biologist will be on site to direct the proper placement of water bars, drain dips, sediment fencing, or straw bales. The disturbed area will be seeded with native vegetation.

Approximately one mile of fencing will be placed along the east side of Little Pine Creek to exclude livestock from the creek. The fence construction will involve very minor soil disruption. Sediment from fence construction should be minimal and should not enter Little Pine Creek.

The BLM requested concurrence on the seven actions which the BLM described as NLAA MCR steelhead. This document serves as concurrence on those actions which are NLAA MCR steelhead and provides incidental take coverage for actions which are LAA MCR steelhead. Actions which are deemed LAA MCR steelhead are analyzed in detail in this Opinion.

Based on information provided by BLM, NOAA Fisheries concurs with the determination that the seven actions (fuels reduction, road relocation, road surfacing, road closures, fence construction, RHCA conifer felling, and the "Pit" closure) are NLAA MCR steelhead. Table 1 displays the activities considered in this Opinion, along with their determination of effect and brief rationale for that determination.

Table 1. Effects Determination Summary for actions in the Little Canyon Mountain Fuels Reduction Project

Activity	Effects Determination	Rationale
Fuels Reduction	NLAA	No management within RHCAs, is expected to maintain the current flow regime in Little Pine Creek
Road Relocation	NLAA	Closing access by road within the RHCA, road scarifying includes sediment control measures and will promote vegetation growth
Road Surfacing	NLAA	Only section within the RHCA is a few hundred feet of road which is on the outside edge of the RHCA
Road Closures	NLAA	No scarifying will occur, sediment should be reduced in the long term
Fence Construction	NLAA	No sediment expected from construction, livestock will be excluded from access to the creek
RHCA Conifer Felling	NLAA	Only about 25 trees within a 300 foot section will be felled, felled trees will remain within the RHCA, shade reduction will be minimal because of northern aspect
Closure of the "Pit"	NLAA	Will reduce or eliminate illegal dumping in the "Pit", is not within the RHCA
Culvert Replacement	LAA	MCR steelhead likely present, fish relocation efforts will be made, some sediment introduction into Little Pine Creek

The above-listed seven NLAA actions are unlikely to cause incidental take of MCR steelhead.

The BLM must reinitiate consultation on the seven NLAA actions if: (1) New information reveals that effects of the action may affect listed species in a way not previously considered; (2) the action is modified in a way that causes an effect on listed species that was not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action. To reinitiate consultation on these NLAA actions, BLM must contact the NOAA Fisheries Habitat Conservation Division, Oregon State Habitat Office and refer to 2003/01439. (50 CFR 402.16).

The culvert replacement component of the Project is LAA MCR steelhead and is considered further in this Opinion. The culvert replacement is intended to improve fish passage by replacing the existing culvert with a bottomless arch streambed simulation. Little Pine Creek in Grant County, Oregon, is habitat to MCR steelhead and resident trout. All instream work will be completed within the designated in-water work window of July 15 to August 15 (ODFW 2000), in 2004, when adult MCR steelhead migration and spawning will not be occurring.

The new corrugated metal pipe (CMP) arch will be attached to either concrete pads or metal sills, and riprap will be placed to protect all four corners. Using the natural streambed as substrate in the culvert is intended to provide adequate fish passage. Due to the small size of this stream, a stream-simulated bottomless arch culvert can be engineered wide enough to allow for a 100-year flood event, unrestricted fish passage, and bedload transport, as well as allow for stream complexity and movement within the culvert. Fill width will be limited to the minimum necessary to complete the crossing, and does not reduce existing stream width. Manipulation of the streambank will be limited to the culvert site itself.

Materials needed for construction will be obtained from and stored outside of the RHCA. If concrete footings are used for the arch culvert, they will be pre-cast off site. No additional stream crossing for equipment will be needed. Adequate space is available for equipment staging in field areas near the project site, outside of the RHCA, and all equipment will be cleaned and fueled in these staging areas.

Stream flow will be piped through the project area in the same location as the existing stream channel to minimize sediment inputs. This will require the use of sandbags to divert flow at the upstream end of the culvert. Straw bales or sediment fences will be placed downstream to provide sediment retention. Any listed fish that may be in the work area to be isolated will be captured by net and released outside of the construction area. Fish relocation will be done with the supervision by a fishery biologist experienced in work area isolation. Although fish passage will be impeded during construction, fish movement during this time period is minimal.

1.3 Description of the Action Area

The action area for the proposed project includes the immediate portions of the watershed containing the project, and extends upstream 150 feet above the construction area and downstream 300 feet below the construction area. This area serves as a spawning and rearing habitat as well as a migratory corridor for juvenile and adult MCR steelhead.

2. ENDANGERED SPECIES ACT

2.1 Biological Opinion

2.1.1 Biological Information

The MCR steelhead evolutionarily significant unit (ESU) was listed as threatened under the ESA by NOAA Fisheries on March 25, 1999 (64 FR 14517). Protective regulations for MCR steelhead were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). Biological information concerning the MCR steelhead is found in Busby *et al.* (1996). The major drainages in the MCR steelhead ESU are the Deschutes, John Day, Klickitat, Umatilla, Walla Walla, and Yakima River systems. NOAA Fisheries (2003) has indicated that the five-year average (geometric mean) abundance of natural MCR steelhead was up from previous years' basin estimates in the ESU. The Klickitat, Yakima, Touchet, and Umatilla systems are all well below their interim abundance targets. The John Day and Deschutes are at or above their interim targets for abundance, however there is significant concern regarding the straying of fish into the Deschutes system from other ESUs (Table 2). The productivity estimate (λ) of the MCR ESU is approximately 0.98, indicating that the productivity of MCR steelhead is slightly below its target of 1.0. NOAA Fisheries biological review team (BRT) has determined that the MCR ESU is likely to become endangered because of stock abundance and long-term productivity being depressed within the ESU.

Table 2. Interim Abundance Targets for the MCR Steelhead ESU (adapted from NOAA Fisheries 2003).

ESU/Spawning Aggregations*	Interim Abundance Targets	Interim Productivity Objective
Walla-Walla	2,600	Middle Columbia ESU populations are currently well below recovery levels. The geometric mean Natural Replacement Rate (NRR) will therefore need to be greater than 1.0
Umatilla	2,300	
Deschutes (Below Pelton Dam Complex)	6,300	
John Day		
North Fork	2,700	
Middle Fork	1,300	
South Fork	600	
Lower John Day	3,200	
Upper John Day	**2,000**	

*Populations in bold are addressed in this Opinion

The John Day River (JDR) is the largest river system in the range of MCR steelhead that is free of dams. There is currently no artificial propagation of steelhead in the system, and runs are driven almost exclusively by native stocks, making the JDR system unique within the ESU. However, there is some straying of hatchery fish into the JDR system from the Columbia River (Unterwegner and Gray 1997). The ODFW estimates yearly returns of adult steelhead to the JDR basin from 3,900 to 36,400, with estimated escapement averaging 13,988 adults since 1987. NOAA Fisheries (2003) states that while the JDR system has met or exceeded interim abundance targets for the last five years, the long-term trend for abundance is still downward.

The JDR and its tributaries provide spawning, rearing, and migratory habitat for both adult and juvenile life stages of MCR steelhead. In 2002, the redd abundance in the John Day River subbasins were at their highest levels since listing. Adult MCR steelhead enter the Columbia River beginning in the spring and migrate upriver through the summer, fall, and winter, seeking their tributary of origin. By early the following spring, the adults have reached their natal streams and spawn in gravel redds/nests from March to early June. Deposited eggs usually hatch by the July of the same year. The resulting juveniles will spend from one to four years rearing to smolt size, at which time they will begin their migration to the ocean.

Essential features of the adult spawning, juvenile rearing, and adult and migratory habitat for this species are: Substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food (juvenile only), riparian vegetation, space, and safe passage conditions. (Bjornn and Reiser, 1991; NOAA Fisheries, 1996b; Spence *et al.*, 1996). The essential features

that the proposed project may affect are: Substrate, water quality, water temperature, water velocity, cover/shelter, food, riparian vegetation, and safe passage conditions.

2.1.2 Evaluating Proposed Action

The standards for determining jeopardy and destruction or adverse modification of critical habitat are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). In conducting analyses of habitat-altering actions under section 7 of the ESA, NOAA Fisheries uses the following steps of the consultation regulations combined with the Habitat Approach (NOAA Fisheries 1999): (1) Consider the status and biological requirements of the species; (2) evaluate the relevance of the environmental baseline in the action area to the species' current status; (3) determine the effects of the proposed or continuing action on the species and whether the action is consistent with the available recovery strategy; (4) consider cumulative effects; and (5) determine whether the project, in light of the above factors, is likely to appreciably reduce the likelihood of species survival in the wild or destroy or adversely modify critical habitats. In completing this step of the analysis, NOAA Fisheries determines whether the action under consultation, together with the cumulative effects when added to the environmental baseline, is likely to jeopardize the ESA-listed species or result in the destruction or adverse modification of critical habitat.

2.1.3 Biological Requirements

MCR steelhead survival in the wild depends on the proper functioning of certain ecosystem processes including habitat formation and maintenance. The restoration of improperly functioning habitat to a more properly functioning condition will likely lead to improved survival and recovery of MCR steelhead. In conducting analyses of habitat altering actions, NOAA Fisheries defines the biological requirements in terms of a concept called Properly Functioning Condition (PFC) and applies a "habitat" approach to its analysis (NOAA Fisheries 1999). The current status of MCR steelhead, based on their risk of extinction, has not improved since the species was listed.

NOAA Fisheries defines the species' biological requirements that are most relevant to each consultation. The biological requirements relevant to this consultation are water quality, access, and channel conditions and dynamics. The proposed project is expected to improve: (1) Water quality (sediment) by allowing bedload transport through arch; (2) access (physical barriers) by improving passage at the culvert; and (3) channel conditions and dynamics (streambank condition and floodplain connectivity) by allowing for unrestricted water flow through the new arch even in high flow events.

2.1.4 Environmental Baseline

The current range-wide status of the MCR steelhead is found in Busby *et al.* (1995, 1996). Environmental baseline conditions within the action area were evaluated for the subject actions at the project level and watershed scales. The results of this evaluation, based on the "Matrix of

Pathways and Indicators" (MPI) described in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NOAA Fisheries 1996a), follow. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. For the project, the MPI evaluation was based on habitat conditions of the Little Pine Creek watershed.

Within the Little Pine Creek Watershed, all 18 habitat indicators in the MPI were rated as "functioning at risk." This information is summarized in Table 3, below.

Table 3. Summary of Watershed Conditions in the Action Area

MPI Pathways	MPI Indicators[1]	Watershed
		Little Pine Creek
Water Quality	Temperature	FAR
	Sediment	FAR
	Chemical Contaminants/ Nutrients	FAR
Access	Physical barriers	FAR
Habitat Elements	Substrate Embeddedness	FAR
	Large Woody Debris	FAR
	Pool Frequency	FAR
	Pool Quality	FAR
	Off Channel Habitat	FAR
	Refugia	FAR
Channel Conditions & Dynamics	Width/depth ratios	FAR
	Streambank Condition	FAR
	Floodplain connectivity	FAR
Flow/ Hydrology	Change in Peak Base Flow	FAR
	Drainage Network Increase	FAR
Watershed Condition	Road Density and Location	FAR
	Disturbance History	FAR
	RHCAs	FAR

[1] The condition of each MPI parameter is indicated in the following manner:
PF = properly functioning, FAR= functioning at risk, NPF= not properly functioning, U=data unavailable

2.1.5 Effects of Proposed Action

The effects determination for the activities in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. The effects of actions are expressed in terms of the expected effect (restore, maintain, or degrade) on aquatic habitat factors in the action area.

The replacement of culvert with a bottomless arch on Little Pine Creek is LAA MCR steelhead. The expected effects of the proposed project are: (1) Sediment from the construction activities will increase in the short term, and will harm or harass MCR steelhead that utilize the area; (2) equipment in or around Little Pine Creek elevates the risk of chemical contamination from spills; (3) the isolated work site and temporary water diversion will restrict fish passage during the ODFW in-water work window; and (4) habitat access will be improved by creating improved passage conditions for MCR steelhead. Habitat access will be partially restored by implementing this project. All other habitat conditions in the MPI for Little Pine Creek will be maintained in the long term. The greatest potential for direct effects from the culvert removal and arch construction work will be delivery of additional sediment to the stream and the harassment of fish during construction.

Potential impacts to listed salmonids from the in-water and near-water construction activities include mortality from exposure to suspended sediments (turbidity) and contaminants resulting for construction, and behavioral changes resulting from elevated turbidity (Sigler *et al.* 1984, Berg and Northcote 1985, Whitman *et al.* 1982, Gregory 1998), during riverbank habitat alterations.

Suspended sediment and turbidity influences on fish reported in the literature range from beneficial to detrimental. Elevated total suspended solids (TSS) have been reported to enhance cover conditions, reduce piscivorus fish/bird predation rates, and improve survival. Elevated TSS have also been reported to cause physiological stress, reduce growth, and adversely affect survival. Of key importance in considering the detrimental effects of TSS on fish are the frequency and the duration of the exposure, not just the TSS concentration.

Behavioral avoidance of turbid waters may be one of the most important effects of suspended sediments (DeVore *et al.* 1980, Birtwell *et al.* 1984, Scannell 1988). Salmonids have been observed to move laterally and downstream to avoid turbid plumes (McLeay *et al.* 1984, 1987, Sigler *et al.* 1984, Lloyd 1987, Scannell 1988, Servizi and Martens 1991). Juvenile salmonids tend to avoid streams that are chronically turbid, such as glacial streams or those disturbed by human activities, unless the fish need to traverse these streams along migration routes (Lloyd *et al.* 1987). In addition, a potentially positive reported effect is providing refuge and cover from predation (Gregory and Levings 1988).

Fish that remain in turbid, or elevated TSS, waters experience a reduction in predation from piscivorus fish and birds (Gregory and Levings 1998). In systems with intense predation pressure, this provides a beneficial trade off (*e.g.*, enhanced survival) to the cost of potential physical effects (*e.g.*, reduced growth). Turbidity levels of about 23 nephalometric turbidity units (NTU) have been found to minimize bird and fish predation risks (Gregory 1993). Exposure duration is a critical determinant of the occurrence and importance of physical or behavioral effects (Newcombe and MacDonald 1991). Salmonids have evolved in systems that periodically experience short-term pulses (days to weeks) of high suspended sediment loads, often associated with flood events, and are adapted to such high pulse exposures. Adult and larger juvenile salmonids may be little affected by the high concentrations of suspended

sediments that occur during storm and snowmelt runoff episodes (Bjornn and Reiser 1991). However, chronic exposure can cause physiological stress responses that can increase maintenance energy and reduce feeding and growth (Redding *et al.* 1987, Lloyd 1987, Servizi and Martens 1991).

Turbidity, at moderate levels, has the potential to adversely affect primary and secondary productivity, and at high levels, has the potential to injure and kill adult and juvenile fish, and may also interfere with feeding (Spence *et al.* 1996). Newly-emerged salmonid fry may be vulnerable to even moderate amounts of turbidity (Bjornn and Reiser 1991). Other behavioral effects on fish, such as gill flaring and feeding changes, have been observed in response to pulses of suspended sediment (Berg and Northcote 1985). Fine, redeposited sediments also have the potential to adversely affect primary and secondary productivity (Spence *et al.* 1996), and to reduce incubation success (Bell 1991) and cover for juvenile salmonids (Bjornn and Reiser 1991). Increased sedimentation may also lead to increased embeddedness of spawning substrates downstream of the proposed project. These effects are likely to be minimal due to the use of sediment control measures such as silt fences and straw bales and completing all instream construction activities during periods of low flow (July and August).

Disturbance of riparian vegetation could result from operation of heavy machinery near the stream and could lead to decreased shade, increased water temperatures, and decreased streambank stability until riparian vegetation is re-established. The BLM has included several conservation measures in the Project design that will ensure riparian disturbance resulting from the construction activities will remain minimal. These include operating from existing roads and planting and seeding disturbed areas. By conducting the proposed actions during the in-water work window, and utilizing protective measures such as silt fencing, the amount of sediment mobilized in the water column will be minimal. For these reasons, the disturbance should be minimal and temporary.

Operation of the back-hoes, excavators, and other equipment requires the use of fuel, lubricants, *etc.*, which, if spilled into the channel of a waterbody or into the adjacent riparian zone, can injure or kill aquatic organisms. Petroleum-based contaminants, such as fuel, oil, and some hydraulic fluids, contain poly-cyclic aromatic hydrocarbons (PAHs), which can be acutely toxic to salmonids at high levels of exposure and can also cause chronic lethal and acute and chronic sublethal effects to aquatic organisms (Neff 1985). Equipment will be stored and fueled at least 150 feet from the stream.

Excavation in the stream channel associated with culvert work entails risk of chemical contamination of the aquatic environment within the action area. Because the project is scheduled to take place during the designated in-water work window, the potential for chemical contamination should be localized and brief, and therefore the probability of direct mortality will be minimized.

The aforementioned adverse effects are likely to be temporary and of short duration. The maximum period of time during which construction activities will occur is one month. In the

long term, all aquatic habitat factors will be maintained. Fish passage and stream channel morphology at the project site will improve as a result of the proposed actions.

Juvenile MCR steelhead will be harassed and potentially harmed as they are moved from the action area. Fish biologists will move all juvenile MCR steelhead from the instream isolation area by using herding, seining, or dip netting. Once these juvenile MCR steelhead are frightened (harassment) from cover and swim to open water, they become more susceptible to harm from predation from larger fish and avian predators. After fish are removed from the project site, block nets will be installed to keep fish out of the construction site. The work area isolation will result in disturbance and stress to listed MCR steelhead (harass). Stress approaching or exceeding the physiological tolerance limits of individual fish can impair growth, resistance to infectious diseases, and general survival (Wedemeyer *et al.* 1990). Mechanical injury (harm) is also possible during holding or netting. The use of block nets to isolate the work area will temporarily interrupt juvenile MCR steelhead rearing, feeding, and sheltering (harass).

Manipulation of the streambed to remove the existing culvert is likely to mobilize sediment that may enter the stream. The short-term increase in turbidity could temporarily reduce feeding efficiency for juvenile steelhead within the action area (harass). Increased sedimentation may also lead to increased embeddedness of spawning substrates downstream of the proposed project that could result in harm to eggs deposited in gravels without adequate oxygen permeation. Due to the typically low flows in Little Pine Creek during the time of implementation, sedimentation rates are likely to be minimal. Diverting water around the disturbance within the channel will reduce continual sediment production during implementation. Additionally, the use of silt fence and straw bales will help reduce the amount of sediment introduced into the active stream.

In the long term, the proposed project will have beneficial effects on MCR steelhead habitat. Removal of the current culvert (a partial juvenile MCR steelhead passage barrier) and installing bottomless arches will allow for year-round passage to all life stages of MCR steelhead. The proposed project will improve access to habitat that will be utilized for migration, spawning, and rearing in the Little Pine Creek Watershed. The proposed project is also likely to allow normal passage of bedload material downstream.

Based on the effects described above, the proposed project will have a long-term, positive effect on the survival and recovery of the MCR steelhead. Because Little Pine Creek is a small watershed compared to the range of the MCR steelhead ESU, a population increase may not be measurable at the ESU scale. However, because access is being restored to a watershed that the MCR steelhead currently attempt to use, an increase in the distribution and/or population within the watershed may be likely to occur.

2.1.6 Cumulative Effects

"Cumulative effects" are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." There are several actions occurring on

private land in the JDR that are reasonably certain to continue in the future. These include ranching, timber harvest, and withdrawal of water for irrigation. Significant improvement in MCR steelhead reproductive success outside of Federally-administered land is unlikely without changes in grazing, agricultural, and other practices occurring within these non-federal riparian areas in the JDR basin. Improvements to irrigation diversions to improve fish passage is occurring at several locations on private land within the JDR basin. NOAA Fisheries is not aware of any other specific future actions which are reasonably certain to occur on non-federal lands.

2.1.7 Conclusion

NOAA Fisheries has determined that, when the effects of the subject actions addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, they do not jeopardize the continued existence of MCR steelhead. NOAA Fisheries believes that the project will cause some short-term increases to instream turbidity and sedimentation rates There is also some potential for chemical contaminants to enter the water in the action area. Therefore, NOAA Fisheries believes that juvenile MCR steelhead will be harmed or harrassed from the instream activities required for the culvert replacement. Because of the conservation measures incorporated into the project, the amount of take associated with these activities is expected to be minimal. These conclusions were reached primarily because: (1) The project will occur over a brief time during the in-water work window (July 15th to August 31st); (2) all disturbed soils within RHCAs will be replanted with native vegetation; (3) work area isolation and fish relocation operations will be conducted by experienced staff monitored by a fish biologist to minimize stress and mortality to listed steelhead; (4) road closures are expected to reduce sediment transport; and (5) a net increase in fish habitat access will result from the project activities will improve passage conditions for MCR steelhead in the project area. Thus, the project is not expected to impair currently properly functioning habitats, appreciably reduce the functioning of already impaired habitats, or retard the long-term progress of impaired habitats toward proper functioning condition essential to the long-term survival and recovery at the population or ESU scale.

2.1.8 Reinitiation of Consultation

Reinitiation of consultation is required if: (1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; (3) a new species is listed or critical habitat is designated that may be affected by the action; or (4) if the amount or extent of take specified in the incidental take statement is exceeded or expected to be exceeded. (50 CFR. 402.16). The BLM may also be required to reinitiate consultation if the project is not consistent with conservation measures developed through the pending consultation on land and resource management plans for Federal land management units in the Middle and Upper Columbia River basins.

2.2 Incidental Take Statement

The ESA at section 9 [16 USC 1538] prohibits take of endangered species. The prohibition of take is extended to threatened anadromous salmonids by section 4(d) rule [50 CFR 223.203]. Take is defined by the statute as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." [16 USC 1532(19)] Harm is defined by regulation as "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavior patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering." [50 CFR 222.102] Harass is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering." [50 CFR 17.3] Incidental take is defined as "takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant." [50 CFR 402.02] The ESA at section 7(o)(2) removes the prohibition from any incidental taking that is in compliance with the terms and conditions specified in a section 7(b)(4) incidental take statement [16 USC 1536].

2.2.1 Amount or Extent of the Take

The proposed action is reasonably certain to result in incidental take of juvenile MCR steelhead because: (1) The listed species are known to occur in the action area; and (2) the proposed action is likely to cause impacts significant enough to cause death or injury, or impair feeding, breeding, migrating, or sheltering for the listed species.

Some level of incidental take is likely to result from direct injury or death of juvenile MCR steelhead during instream work (harm). The temporary increase in sediment and turbidity is likely to cause fish to avoid disturbed areas of the stream, both within and downstream of the project area (harass). High levels of turbidity may harm MCR steelhead that are unable to avoid sediment plumes. Spawning redds may also be harmed if residual sediment does not allow for adequate oxygen permeation. Effects from turbidity are likely to be of short duration, because turbidity levels will quickly return to preconstruction levels once instream work is completed. Additionally, the use of sediment control measures including silt fences and straw bales will reduce the amount of sediment that enters Little Pine Creek.

The potential for incidental take in the form of death or sub-lethal effects also exists if toxicants are introduced into the water (harm). Harassment is expected to occur in the form of behavior modification (avoidance) of disturbed riparian areas. MCR steelhead are expected to avoid areas of riparian disturbance, vegetation removal, and decreased shade. This harassment is expected to be reduced as riparian vegetation is established.

Take associated with the effects of actions such as these is largely unquantifiable in the short term, and may not be measurable as long-term effects on the species' habitat or population. Therefore, although NOAA Fisheries expects the habitat-related effects of these actions to cause

some low level of incidental take, the best scientific and commercial data available are not sufficient to enable NOAA Fisheries to estimate a specific amount of incidental take because of those habitat-related effects. In instances such as these, NOAA Fisheries designates the expected level of take as "unquantifiable."

Take, in the form of harassment, is likely to occur from the work isolation and fish relocation operation. Direct mortality (harm) may also be likely to occur during the work isolation and fish relocation operation. The BLM will not use electroshocking to remove fish from the project area. Because of limited fish abundance within the project area during the in-water work window. Because NOAA Fisheries expects few fish to be present in the project area during implementation, the work area isolation and fish relocation operation is expected to cause little direct mortality. The expected level of juvenile MCR steelhead killed or injured should not exceed five individual fish. Precautionary measures planned by the BLM for the fish survey operation should keep direct mortality to a minium. The authorized take includes only that caused by the proposed action within the action area as defined in this Opinion.

2.2.2 Effect of Take

In this Opinion, NOAA Fisheries determines that this level of anticipated take will not result in jeopardy to MCR steelhead.

2.2.3 Reasonable and Prudent Measures

Reasonable and prudent measures (RPMs) are non-discretionary measures to minimize take, that may or may not already be part of the description of the proposed action. They must be implemented as binding conditions for the exemption in section 7(o)(2) to apply. The BLM has the continuing duty to regulate the activities covered in this incidental take statement. If the BLM fails to require the applicants to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. NOAA Fisheries believes that activities carried out in a manner consistent with these reasonable and prudent measures, except those otherwise identified, will not necessitate further site-specific consultation. Activities which do not comply with all relevant reasonable and prudent measures will require further consultation.

NOAA Fisheries believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of MCR steelhead resulting from implementation of the action.

The BLM shall:

1. Avoid or minimize the likelihood of incidental take from replacing the Little Pine Creek culvert by limiting general construction activities as necessary to conserve riparian and aquatic habitats.

2. Ensure completion of a monitoring and reporting program to confirm this Opinion is meeting its objective of avoiding or minimizing take.

2.2.4 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the action must be implemented in compliance with the following terms and conditions, which implement the reasonable and prudent measures described above for each category of activity. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1(construction), the BLM shall:

    a. Minimum area. Confine construction impacts to the minimum area necessary to complete the project.
    b. Timing of in-water work. Work below the bankfull elevation will be completed between July 15 and August 15, unless otherwise approved in writing by NOAA Fisheries.
    c. Cessation of work. Cease project operations under high flow conditions that may result in inundation of the project area, except for efforts to avoid or minimize resource damage.
    d. Fish passage. Provide passage for any adult or juvenile salmonid species present in the project area during construction, unless otherwise approved in writing by NOAA Fisheries, and after construction for the life of the project. Upstream passage is not required during construction if it did not previously exist.
    e. Pollution and Erosion Control Plan. Prepare and carry out a pollution and erosion control plan to prevent pollution caused by surveying or construction operations. The plan must be available for inspection on request by NOAA Fisheries.
        i. Plan Contents. The pollution and erosion control plan will contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations.
            (1) The name and address of the party(s) responsible for accomplishment of the pollution and erosion control plan.
            (2) Practices to prevent erosion and sedimentation associated with access roads, stream crossings, drilling sites, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations, staging areas, and roads being decommissioned.
            (3) Practices to confine, remove and dispose of excess concrete, cement, grout, and other mortars or bonding agents, including measures for washout facilities.
            (4) A description of any regulated or hazardous products or materials that will be used for the project, including procedures for inventory, storage, handling, and monitoring.

(5) A spill containment and control plan with notification procedures, specific cleanup and disposal instructions for different products, quick response containment and cleanup measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.

(6) Practices to prevent construction debris from dropping into any stream or waterbody, and to remove any material that does drop with a minimum disturbance to the streambed and water quality.

ii. Inspection of erosion controls. During construction, monitor instream turbidity and inspect all erosion controls daily during the rainy season and weekly during the dry season, or more often as necessary, to ensure the erosion controls are working adequately.[3]

f. Preconstruction activity. Complete the following actions before significant[4] alteration of the project area.

i. Marking. Flag the boundaries of clearing limits associated with site access and construction to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.

ii. Emergency erosion controls. Ensure that the following materials for emergency erosion control are onsite.

(1) A supply of sediment control materials (*e.g.*, silt fence, straw bales[5]).

(2) An oil-absorbing, floating boom whenever surface water is present.

iii. Temporary erosion controls. All temporary erosion controls will be in-place and appropriately installed downslope of project activity within the riparian area until site restoration is complete.

g. Heavy Equipment. Restrict use of heavy equipment as follows:

i. Choice of equipment. When heavy equipment will be used, the equipment selected will have the least adverse effects on the environment (*e.g.*, minimally sized, low ground pressure equipment).

ii. Vehicle and material staging. Store construction materials, and fuel, operate, maintain and store vehicles as follows.

(1) To reduce the staging area and potential for contamination, ensure that only enough supplies and equipment to complete a specific job will be stored on-site.

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[3] 'Working adequately' means that project activities do not increase ambient stream turbidity by more than 10% above background 100 feet below the discharge, when measured relative to a control point immediately upstream of the turbidity causing activity.

[4] 'Significant' means an effect can be meaningfully measured, detected or evaluated.

[5] When available, certified weed-free straw or hay bales will be used to prevent introduction of noxious weeds.

(2) Complete vehicle staging, cleaning, maintenance, refueling, and fuel storage in a vehicle staging area placed outside of any RHCA, unless otherwise approved in writing by NOAA Fisheries.

(3) Inspect all vehicles operated within and RHCA for fluid leaks before leaving the vehicle staging area. Repair any leaks detected in the vehicle staging area before the vehicle resumes operation. Document inspections in a record that is available for review on request by NOAA Fisheries.

(4) Before operations begin and as often as necessary during operation, steam clean all equipment that will be used below bankfull elevation until all visible external oil, grease, mud, and other visible contaminates are removed.

(5) Diaper all stationary power equipment (*e.g.*, generators, cranes, stationary drilling equipment) operated within 150 feet of any stream, waterbody or wetland to prevent leaks, unless suitable containment is provided to prevent potential spills from entering any stream or waterbody.

h. Site preparation. Conserve native materials for site restoration.

i. If possible, leave native materials where they are found.

ii. If materials are moved, damaged or destroyed, replace them with a functional equivalent during site restoration.

iii. Stockpile any large wood, native vegetation, weed-free topsoil, and native channel material displaced by construction for use during site restoration.

i. Isolation of in-water work area. If adult or juvenile fish are reasonably certain to be present, or if the work area is 300 feet upstream of spawning habitats, completely isolate the work area from the active flowing stream using inflatable bags, sandbags, sheet pilings, or similar materials, unless otherwise approved in writing by NOAA Fisheries.

j. Fish screens. Install, operate and maintain a fish screen according to NOAA Fisheries' fish screen criteria[6] on each water intake used for project construction, including pumps used to isolate an in-water work area.

k. Capture and release. Before and intermittently during pumping to isolate an in-water work area, attempt to capture and release fish from the isolated area using trapping, seining, or other methods as are prudent to minimize risk of injury.

l. Fish Handling and Transfer Protocols – Fish Capture Alternatives. Where the capture, removal, and relocation of ESA-listed fish are required, the BLM shall:

(1) Have a fisheries biologist experienced with work area isolation and competent to ensure the safe handling of all ESA-listed fish conduct or supervise the operation

[6] National Marine Fisheries Service, *Juvenile Fish Screen Criteria* (revised February 16, 1995) and *Addendum: Juvenile Fish Screen Criteria for Pump Intakes* (May 9, 1996) (guidelines and criteria for migrant fish passage facilities, and new pump intakes and existing inadequate pump intake screens) (http://www.nwr.noaa.gov/1hydrop/hydroweb/ferc.htm).

(2) Use one or combination of the following methods to most effectively capture ESA-listed fish and minimize harm.
(a) Hand Netting. Collect fish by hand or dip nets, as the area is slowly dewatered.
(b) Seining. Seine using a net with mesh of such a size as to ensure entrapment of the residing ESA-listed fish.
(c) Minnow Trap. Place minnow traps overnight and in conjunction with seining.

(3) Fish Storage and Release. Where the capture, removal, and relocation of ESA-listed fish are required the BLM shall:
(a) Handle captured fish with extreme care and keep these fish in water to the maximum extent possible for the least amount of time during transfer procedures. The use of a sanctuary net is recommended.[7]
(b) Utilize large buckets (five-gallon or greater) and minimize the number of fish stored in each bucket to prevent overcrowding
(c) Place large fish in buckets separate from smaller prey-sized fish.
(d) Monitor water temperature in buckets and well-being of captured fish.
(e) Release fish upstream of the isolated reach in a pool or area that provides cover and flow refuge after fish have recovered from stress of capture.
(f) Document all fish injuries or mortalities.

m. Earthwork. Complete all earthwork as quickly as possible.
i. Site stabilization. Stabilize all disturbed areas, including obliteration of temporary roads, following any break in work unless construction will resume within four days.
ii. Source of materials. Obtain boulders, rock, woody materials and other natural construction materials used for the project outside the riparian area.

n. Site restoration. Prepare and carry out a site restoration plan as necessary to ensure that all streambanks, soils and vegetation disturbed by the project are cleaned up and restored as follows. Make the written plan available for inspection on request by NOAA Fisheries.
i. General considerations.
(1) Restoration goal. The goal of site restoration is renewal of habitat access, water quality, production of habitat elements (*e.g.*, large woody debris), channel conditions, flows, watershed conditions

[7] A sanctuary net is a net that has a solid bottom bag that allows for the retention of a small amount of water in the net, thus allowing for less potential impact to netted fish from the net mesh.

and other ecosystem processes that form and maintain productive fish habitats.

(2) Streambank shaping. Restore damaged streambanks to a natural slope, pattern and profile suitable for establishment of permanent woody vegetation, unless precluded by pre-project conditions (*e.g.*, a natural rock wall).

(3) Revegetation. Replant each area requiring revegetation before the first April 15 following construction. Use a diverse assemblage of species native to the project area or region, including grasses, forbs, shrubs and trees. Noxious or invasive species may not be used.

(4) Pesticides. Take of ESA-listed species caused by any aspect of pesticide use is not included in the exemption to the ESA take prohibitions provided by this incidental take statement. Pesticide use must be evaluated in an individual consultation, although mechanical or other methods may be used to control weeds and unwanted vegetation.

(5) Fertilizer. Do not apply surface fertilizer within 50 feet of any stream channel.

2. To implement reasonable and prudent measure #2 (monitoring), the BLM shall:

a. Reporting. Submit a monitoring report to NOAA Fisheries within one year of project completion describing the BLM's success in meeting the terms and conditions contained in this Opinion. The monitoring report will include the following information:

i. Project identification

(1) Project name.

(2) Project location, by 5th field HUC and by latitude and longitude as determined from the appropriate USGS 7-minute quadrangle map.

(3) BLM contact person.

(4) Starting and ending dates for work completed.

ii. Photo documentation. Photos of habitat conditions at the project and any compensation site(s), before, during, and after project completion.[8]

(1) Include general views and close-ups showing details of the project and project area, including pre and post construction.

(2) Label each photo with date, time, project name, photographer's name, and a comment about the subject.

iii. Other data. Additional project-specific data, as appropriate.

(1) Work cessation. Dates work ceased due to high flows, if any.

[8] Relevant habitat conditions may include characteristics of channels, eroding and stable streambanks in the Project area, riparian vegetation, water quality, flows at base, bankfull and over-bankfull stages, and other visually discernable environmental conditions at the Project area, and upstream and downstream of the Project.

(2) Fish screen. Evidence of compliance with NOAA Fisheries' fish screen criteria.

(3) Pollution control. A summary of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort.

(4) Site preparation.
   (a) Total cleared area – riparian and upland.
   (b) Total new impervious area.

(5) Isolation of in-water work area, capture and release.
   (a) Supervisory fish biologist – name and contact information.
   (b) Methods of work area isolation and take minimization.
   (c) Stream conditions before, during and within one week after completion of work area isolation.
   (d) Means of fish capture.
   (e) Number of MCR steelhead captured.
   (f) Location and condition of all fish released.
   (g) Any incidence of observed injury or mortality of listed species.

(6) Streambank protection.
   (a) Type and amount of materials used.
   (b) Project size – one bank or two, width and linear feet.

(7) Site restoration. Photo or other documentation that site restoration was completed.

b. Effectiveness monitoring. Gather any other data or analyses the BLM deems necessary or helpful to complete an assessment of habitat trends in stream and riparian conditions as a result of this project. The BLM may use existing monitoring efforts for this purpose if those efforts can provide information specific to the objective of identifying habitat trends.

c. Lethal take. If a sick, injured, or dead specimen of a threatened or endangered species is found, the finder must notify the Vancouver Field Office of NOAA Fisheries Law Enforcement at (360) 418-4246. The finder must take care in handling sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

d. Report submission. Submit the monitoring report to –

Director, Oregon State Habitat Office
Habitat Conservation Division
National Marine Fisheries Service
Attn: 2003/01031
525 NE Oregon Street
Portland, OR 97232

3. MAGNUSON-STEVENS ACT

3.1 Magnuson-Stevens Fishery Conservation and Management Act

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of EFH: "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;

- NOAA Fisheries shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH;

- Federal agencies shall within 30 days after receiving conservation recommendations from NOAA Fisheries provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency shall explain its reason for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and up-slope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.2 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other waterbodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the emergency action is based on this information.

3.3 Proposed Actions

The proposed action and action area are detailed above in sections 1.2 and 1.3 of this document. The action area includes habitats that have been designated as EFH for various life-history stages of chinook and coho salmon.

3.4 Effects of Proposed Action

As described in detail in the ESA portion of this consultation, the proposed activities would result in detrimental, short-term, adverse effects to a variety of habitat parameters.

3.5 Conclusion

NOAA Fisheries believes that the action will adversely affect the EFH for chinook salmon.

3.6 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. In addition to conservation measures proposed for the project by the BLM, all of the reasonable and prudent measures and the terms and conditions contained in section 2.2.3 and 2.2.4 of the ESA portion of this Opinion are applicable to salmon EFH. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

3.7 Statutory Response Requirement

The MSA (section 305(b)) and 50 CFR 600.920(j) requires the BLM to provide a written response to NOAA Fisheries' EFH conservation recommendations within 30 days of its receipt of this letter. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. If the response is inconsistent with NOAA

Fisheries' conservation recommendations, the reasons for not implementing the BLM shall explain its reasons for not following the recommendations.

3.8 Supplemental Consultation

The BLM must reinitiate EFH consultation with NOAA Fisheries if either the action is substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion in addition to the BA and additional information requested by NOAA Fisheries and provided by the BLM.

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